

## Claims

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1. Method for transferring data between a secure computer (1), e.g. an error-protected stored-program control (1), and a number of input/output units (2 to 4) via a bus control unit (6) connected to the secure computer (1) and a serial bus system (5), in which the bus control unit (6) cyclically activates the input/output units (2 to 4) connected to the bus system (5) and transfers a multi-bit message (8) to the respective activated input/output unit (e.g. 4), characterized in that
- at least one of the input/output units (4) is designed as a security unit (4),
  - 15 - the multi-bit message (8) transferred to the security unit (4) has at least one checkbit, and
  - the security unit (4) interprets the transferred multi-bit message (8) as correct only if the checkbit alternates within a predefined monitoring period.
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2. Data transfer method according to claim 1, characterized in that
- the security unit (4) is designed as an output unit for activating an output (10),
  - 25 - has a timer (13) which, at the end of the monitoring period, switches the output (10) to a secure condition,
  - the timer (13) is reset with each transfer of a correct multi-bit message (8).
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3. Data transfer method according to claim 1 or 2,  
characterized in that

- the security unit (4) can be activated under two different addresses,
- 5 - a multi-bit message (8) is in each case transferred to the security unit (4) under both addresses, and
- the security unit (4) interprets the transferred multi-bit messages (8) as correct only if the two
- 10 multi-bit messages (8) match one another.

4. Data transfer method according to claim 1, 2 or 3,  
characterized in that the multi-bit message (8)  
comprises at least four data bits.

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